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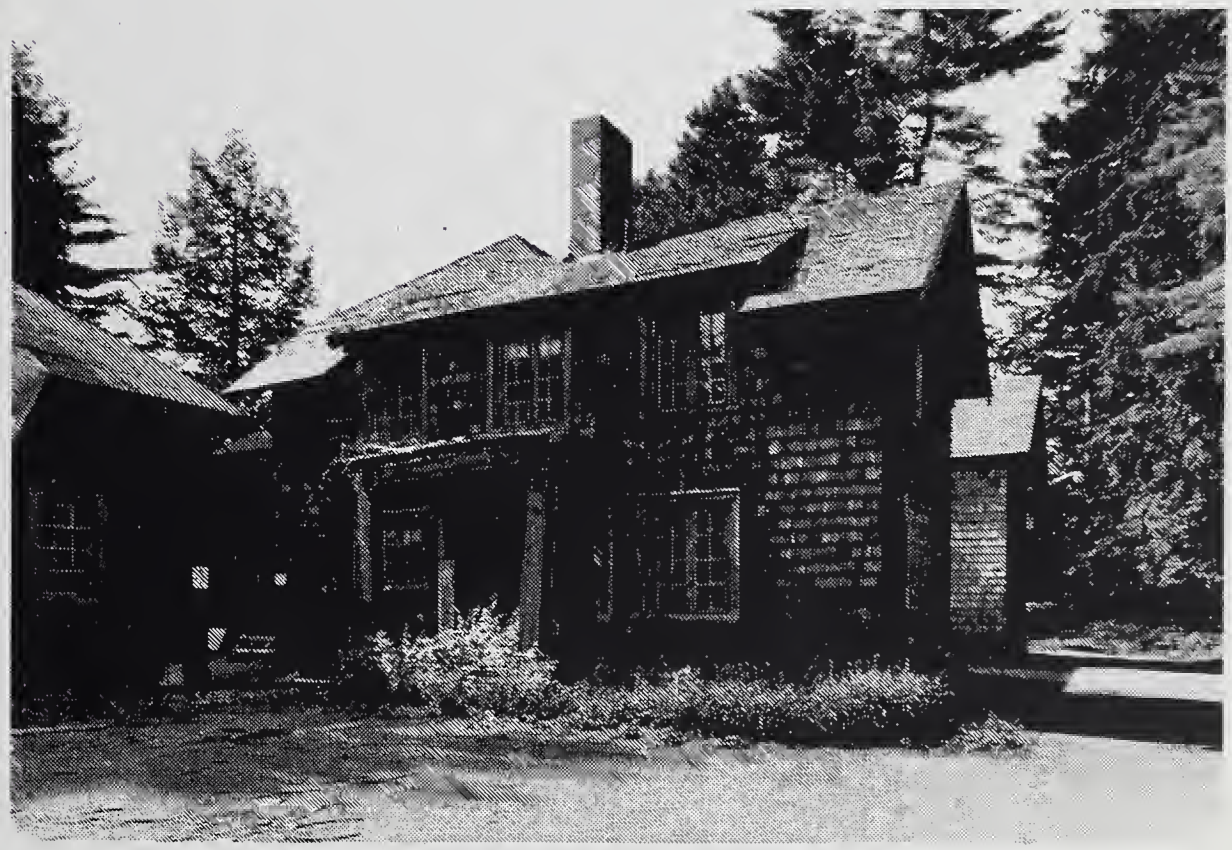
## Building Conditions Survey
## for
# The Bradley Palmer Coach House

## at Bradley Palmer State Park
Topsfield, Massachusetts



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**for**
**Commonwealth of Massachusetts**
**Department of Environmental Management**
**Historic Curatorship Program**
**August 1995**

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Cover Photo by Jon Crispin

# FOREWORD

The Department of Environmental Management (DEM) is pleased to provide the following Building Conditions Survey in conjunction with the Request for Proposal (RFP) for the rehabilitation, adaptive reuse and lease of the historic

***Bradley Palmer Coach House***
***located within Bradley Palmer State Park***
***Topsfield, Massachusetts***

DEM intends to lease the property to a Curator/Tenant through the Department's ***Historic Curatorship Program***, under which the lease value is exchanged for the rehabilitation, adaptive reuse and maintenance of the property. The term of the lease is based on the value of improvements, maintenance and management services from which the annual fair market rent is deducted.

In an effort to provide potential proponents with information on the condition of the curatorship property and the approximate cost for rehabilitation, DEM hired an independent consulting firm specializing in the evaluation of historic structures. Ocmulgee Associates, Inc. inspected the building(s) and prepared this Building Conditions Survey according to a standard scope of services prepared by the Department for the Historic Curatorship Program. The general assumptions and limiting conditions of the assessment, including areas for further testing and analysis, are identified within the body of the report (For example, sections F, H & J).

It is important to note that the buildings in the Historic Curatorship Program are of considerable age and have been vacant for a number of years. While every effort was taken to provide a complete assessment of the structure(s), this report is based on the visible condition of all accessible areas of the property at the time of inspection. Furthermore, the report is based on available data provided by the Department to the inspection team of Ocmulgee Associates, Inc. Potential hazardous conditions have been identified wherever possible, but respondents should exercise caution in inspecting the property. DEM also recommends that the Curator/Tenant conduct an independent inspection of the property prior to beginning work on the building(s).

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## A. General Description and History of the Coach House.

The Coach House is a squarish, brick and timber building clad with cedar shingles. The building is one of a set of utilitarian structures built less than 200 feet south of the Mansion. A brick paved courtyard separates the Coach House from the Stable, a long rectangular barn used for storage by DEM.

The Coach House has a large open storage area for vehicles and two residential and workshop wings. The southeastern wing has second floor bedrooms and a first floor kitchen and living room. The northeastern wing also has second floor bedrooms but a laundry and drying room occupy the first floor. The asymmetric hipped main, roof is intersected by a complexity of skylights, shed dormers and the gable roofs of the two wings.

The building is very elegant in its simple, utilitarian details. It retain many period artifacts such as a coal-burning cook stove, pantry shelves and closets. The plumbing, heating and electrical system are not functioning and are obsolete. In spite of extensive water damage to the building fabric from roof leaks and a fire in one area, the basic building framework and bearing walls are in good condition.

The Coach House has about 3,250 square feet on the first and second floors and about 1,000 square feet of attic, including a platform above the hayloft, for a total useable area of 4,250 square feet; if the 600 square feet of basement is also included, the total useable area is 4,850 square feet.

## B. Description and Condition of Structural Systems

*Roof.* The roof of the coach storage area is an asymmetric hipped roof with two gable-roofed wings on the east side. Several shed dormers are also present at the wings. Altogether, these intersecting shapes create a complex arrangement of hips, valleys and ridges (Figure 1). The roof framing consists of 2x rafters and doubled up two inch lumber at hips, valleys and ridges. Except for localized areas, the original roof framing is in sound condition; undamaged rafters can easily support the 30 psf snow load required by the building code. One of the localized areas is at the north wing where the roof has been rebuilt following a damaging fire; while the replaced rafters appear to be sound, the ceiling joists were not replaced and collar ties were not installed in their place. A few pieces of lumber have been stretched across the room at the ceiling level but the roof is essentially laterally unbraced at the top of the walls (Figure 2).

Elsewhere, rafters have rotted directly under long-neglected leaks at the southern side of the flat roof over the main garage floor and at the valley beam leading down from this side of the roof. There are three specific locations where rot has occurred. One is in the built-up ridge beam at the southern edge of the flat roof; the wood is dark and a blooming fungus has form a crust on the surface of the wood. The second location occurs at the bottom of the valley beam that leads down from the southeast corner of the flat roof to the corner of the exterior wall next to the loft door; where the valley and adjacent rafters sit on the wall (and are surrounded with masonry) the rafters are rotted. (The mortar joints on the interior side of the wall are also eroded under these rafters). The third location occurs in the attic immediately east of the flat area; the lower ends of a few rafters, connecting ceiling joists and the attic flooring are rotted. This last location is over the corridor connecting the two wings and is where ceiling plaster has collapsed (Figure 3).

> New roofing installed in the summer of 1995 has stopped the leaking and stabilized the situation for the time being; however, the rotted conditions discussed above were not repaired at that time. This work should be done with the general repairs and cleaning of the plaster, masonry and woodwork.

*Floors*. Like the roof, the floor framing is in good condition in most locations but there are isolated areas where rot has affected the structural integrity of the framing. The worst conditions are directly under the old roof leak at the southern edge of the flat roof. At both the platform and the second floor hayloft, joists and flooring have rotted so badly that there is no structural capacity for any superimposed loads. These areas are too dangerous to walk on. One of the most dangerous areas is immediately inside the entrance door to the hayloft; at the present time a sheet of plywood distributes load over the rotted framing (Figure 4).

The second floor hayloft is framed by pairs of 16 inch deep steel beams that span across the open garage area below; encased with a furred-out plaster finish, the pairs of beams are 12 feet apart. Exposed, 4x10 southern pine joists spaced about four feet apart span between the steel beams. The plaster has fallen away from the ends of the steel beams directly under the rotted floor area but the steel is still in good condition with only a light scale of rust and general oxidation. However, about 1/2 inch of the top surface of the joists are rotted under the damaged floor. The end of one joist is rotted where it is embedded in the masonry wall; this joist is not a functioning joist but is a trim piece at the side of the plastered header beam that crosses the narrow drive-in east entrance passage. Undamaged joists can support about 75 psf live load; the 16 inch steel beams can support at least 75 psf.

The floor at the platform can carry about 30 psf superimposed load, which is adequate for attic-type light storage. It consists of two inch tongue-and-groove boards that span 15 feet (neglecting any slight beneficial effect of the grossly undersized 2x8 joist at the midspan of the deck). The floor feels springy when walked on. It can be strengthened and stiffened with a midspan beam, but with one that is considerably stronger and stiffer than the 2x8 presently there. Rot occurs in the deck at the south edge directly under the damaged ridge beam.

The floor framing is also damaged at the back stairs in the south wing. As also discussed below with respect to the bearing walls, an extensive leak at the bottom of the valley rafter has rotted the stair stringers and the first floor header beam at the entrance into the basement. The ends of two first floor joists are also rotted where they connect to the rotted header.

Otherwise, the wood floor joists are in good condition. The framing is level and solid at the second floor of the two residential wings and at the first floor under the kitchen and dining-living area of the south wing. Although the plaster-on-wire-lath ceiling has collapsed in the basement, the first floor 2x10 southern pine framing appears to be sound. There is a hole in the second floor of the burnt room where a fireman's ax went through. The undamaged joists can support the 30 psf (second floor) and 40 psf (first floor) live loads required by the building code.

The garage and laundry area of the first floor consists of concrete slabs-on-grade. The main garage area has a surface consisting of six inch square, chamfered concrete-like tiles (half of this floor area is covered by a raised plywood surface); the hall and utility rooms have smooth exposed concrete floors; and the laundry room has a wood wearing surface set on concrete (judging from its levelness and solidness). Except for the heavily worn and locally rotted wood surface of the laundry room and some cracking and settlement immediately inside the west garage door, these floor areas are in good condition.

*Bearing Walls.* Brick bearing walls form the exterior perimeter of the building and also separate the main garage area from the two residential wings on the interior. Exposed on the inside of the garage, the finished surfaces consist of water-struck face brick set in narrow mortar joints. These bricks are sound and attractive, except at areas of extensive efflorescence and mortar erosion from past water leaks in the roof. The brickwork is arched over the windows but is arranged in flat jack arches over the doors. There is a 3/4 inch gap between the north wall and the edge of the floor and a similar sized discoloration on the ends of the second floor joists, suggesting that there has been some movement between the wall and floor, possibly caused by the roof thrusting laterally against the top of the wall, which extends about three feet above the second floor. However, readings with a carpenter's level indicated that the wall is generally plumb. Theoretically, there should be no lateral thrust on the wall because the tops of the rafters are supported by ridge beams.

Elsewhere, the brick is common brick covered by plaster on the interior of the building and cedar shingles on the exterior. The masonry is in good condition except for certain areas that have been damaged by roof leaks.

As discussed above, the two main areas of roof leaks occurred at the southern edge of the flat roof and at the valley beam leading down from this side of the roof. For a long time water infiltrated between the wythes of the brick wall surrounding the stairwell off the kitchen in the south wing. There are bulges in the plane of the wall, missing and eroded mortar joints and disrupted bricks. The plaster surface has completely peeled away from the brick (Figure 5) and lies heaped up on the stairs. Minor damage has also occurred on the opposite side of this wall facing into the garage. Being exposed to view on the garage side, it has probably been able to "breathe" more freely and therefore does not exhibit the disruption seen in the stairwell side. Nevertheless, there is some mortar erosion on the interior surface immediately east of the hayloft door.

There is some minor damage in the masonry at the bottoms of the west garage doors, consisting of missing bricks.

*Foundations*. With the building being level and plumb, the foundations are presumably adequate. In the basement under the kitchen area, the foundation walls are parged with plaster. The plaster is intact and smooth, suggesting that the walls are concrete or dressed stone. The basement floor is a concrete slab-on-grade in good condition. Some moistness was present on the floor but it was not possible to determine if it was due to leaks in the foundation walls or was left over from leaks in the roof. The basement has no ventilation, however, and has a musty odor.

*Chimneys*. The chimneys have been recently rebuilt above the roof and are in excellent condition. As seen in the attics, the brick and mortar are in good condition although there is some mortar erosion and face spalling near the roof boards. The kitchen chimney was once coated with plaster in the attic but most of this has fallen off.

## C. Description of Plumbing, Heating and Electrical Systems

*Plumbing*. There are a total of three bathrooms in the Coach House. A half bath with a floor mounted water closet and wall hung lavatory is located just off the main storage area on the first floor. Two full baths are on the second floor level, each with wall hung lavatory and floor mounted water closet. One is equipped with a metal shower and the other with a cast iron clawfoot tub. All of the plumbing fixtures are in poor but restorable condition except the metal shower. Supply piping is galvanized or lead. A domestic water entrance was not found but it is probably from town water similar to the mansion next door. The drainage piping is cast iron and exits the east foundation wall presumably to an on-site disposal system. The kitchen does not contain any plumbing or fixtures. There is a 12 inch square slotted floor grate and sump located in the main garage floor slab with a three inch inner diameter outlet pipe.

The supply and waste piping along with valves, traps, faucets, etc. should be replaced but some of the fixtures can be reused after a major cleaning. A new sewage disposal system must be constructed. The floor grate should be removed, outlet pipe sealed, and the sump filled with concrete.

*Domestic Hot Water.* None was observed. A new domestic hot water system will be required.

*Fire Protection.* No sprinklers, standpipes, or fireman connections were noted. Depending on future use and Code requirements, a fire protection system may be required.

*Central Heating System.* A pair of American Standard boilers in dreadful condition are located in the small basement area. Neither is operational and all piping and fittings are covered with rust and peeling pipe insulation which may be asbestos containing material (ACM). A number of the rooms have cast iron radiators piped from these boilers. The heating system has not been maintained and may not have been fully drained when usage stopped. There is also an ITT propane-fired unit heater of 81,900 btu capacity hung from the ceiling of the main garage. A 10kw gasoline fired emergency generator is located on the floor of the main garage.

Both boilers should be removed and replaced with a single, efficient boiler with new controls, piping, and radiators.

*Electrical System.* The electrical service enters the basement level below grade into a pull box mounted on the wall. To disconnect the service you must pull fuses. The main panel and branch circuit panels are severely rusted due to prolonged exposure to moisture. The branch circuit panels are antiquated, live front, plug fuse panels with no means for disconnecting them. Panels in occupied spaces are recessed into millwork. Apparent Code violations include loose hanging wires, missing junction box covers, fuses with no means to disconnect and exposed live wiring in areas accessible to unauthorized personnel. Bathroom receptacles and switches are two prong ungrounded. No emergency lighting or smoke detectors were evident. Each bedroom contains two duplex outlets and surface mounted incandescent light fixtures fed by exposed wiremold.

A completely new electrical service including emergency lighting and smoke detectors is recommended.

## D. Description of Exterior Elements

*Roofing.* The Coach House roofing was installed in the summer of 1995 during the time of Ocmulgee Associates' inspections. Likewise, there is no felt or ice barrier under the new shingles. The flat area appears to be a new membrane adhered to the existing roof; aluminum trim covers the edge of the membrane where it meets the shingled surface. Exposed rafter tails and facia boards were also modified during this and previous repairs. Some repairs were also made this summer to the overhanging soffits and damaged areas at the top of the walls.

The roofs and attics are not insulated.

*Walls and Siding*. The exterior siding of the Coach House is more deteriorated than that of other service buildings (Figure 6). Like the stable, the lowest three to five courses are severely deteriorated and need to be replaced. Furthermore, several feet of shingles are scraped off at the northeast corner where vehicles drive around the building. On the south side for the full length of the building and generally under roof valleys, the shingles are badly eroded and many are missing for the full height of wall.

With the masonry construction of the exterior walls, there is no insulation in the walls.

*Windows*. Most of the windows are out-swinging casement type windows similar to those at the mansion. While most of the windows are worn but salvageable, considerable rebuilding is needed at some of them. In the eastern "courtyard" between the two wings, casing trim is loose or missing and, at the passageway bathroom, the lower muntins and sash of the narrow slit window have been badly chewed by a trapped animal and the sill on the outside is thoroughly rotted. Yellow jacket bees were nesting in the window head of the laundry room and the water-tables are missing at the bottom rail. Because most of the window panes are original glass, they should be reused when any sash are rebuilt or replaced.

For both stories on the south side of the southern wing, the windows units have little paint left and the sills are deeply etched.

*Doors, Entries, Porches*. The south entrance porch into the kitchen is still standing but is near collapse. The corner posts are tilted and roof boards are missing or sagging (Figure 7). The steps and floor are engulfed by plant growth. The entry porch is important to the historic appearance of the Coach House and should be rebuilt to match its original appearance, including its moldings and details.

There are seven door openings around the Coach House: 1) At the double, sliding doors at the east garage entrance, the stiles are split and any original astragal is missing, the bottom panels and rail are rotted and molding is missing, but the window glass and upper half of the doors are intact (Figure 8); 2) At the double, sliding doors at the west garage entrance, conditions are similar to the east doors with one garage door jamb damaged at the bottom and one jamb missing; 3) a single, sliding door at the south garage entrance is worn but intact, although one jamb is damaged at the bottom; 4) although the glass and stiles are sound, the panels of the hayloft door are etched and cracked and molding is missing at the bottom; 5) the back door into the kitchen is intact and sound but needs refinishing; 6) the side door at the porch is intact and sound but needs refinishing; 7) except for a sprung hinge and lack of paint, the bulkhead doors into the basement are otherwise intact.

An original platform outside the hayloft door is missing. Traces of joists are visible along a timber ledger bolted to the face of the building (Figure 6) and concrete column bases are visible in the brick courtyard about six feet away from the building.

*Courtyard.* A brick-paved courtyard separates the stable and Coach House. The brick is mortared and is probably set on a concrete slab. The bricks are in generally good condition but the mortar joints are cracked, missing and have grass growing in them; the joints need to be repointed (Figure 1).

## E. Description of Interior Elements

The Coach House appears to have had three primary functions. First, it housed Palmer's coachs and/or automobiles in the large open area on the first floor. If there was any special equipment and furnishings associated with this function, they are now gone except for the pair of large cabinets on either side of the east coach door. Second, it served as the primary laundry for the estate with substantial built-in storage areas for a large amount of linens as well as washing facilities. Third, it provided commodious housing for an upper tier servant family or individual stable hands, mechanics and chauffeurs. Important surviving components of this usage include the built in kitchen range, cabinetry and pantry and the adjoining formal fireplaced living room.

*Flooring.* The flooring in the residential areas of the Coach House is generally intact but needs to be refinished. The connecting corridor at the second floor between the two wings and the bathroom have tiled floors; because of their age, the tile should be tested for the presence of asbestos.

The flooring in the kitchen is modern linoleum, but the original yellow pine strip flooring is present underneath and should be restored. In the living room, the flooring is vinyl asbestos or asphalt tile (VAT) over the original strip yellow pine flooring. The tile should be tested for the presence of asbestos before removing it.

*Walls and Ceilings.* Throughout the first floor, the ceilings consist of exposed, dressed yellow pine beams having chamfered edges and a stained and varnished finish with painted plaster recessed between the beams. At the second floor the ceilings are smooth-finished plasterboard.

In the burnt room at the second floor of the north wing, the plaster on the walls have been removed. In the first floor bathroom, the plaster on the exterior wall is cracked and buckled; and in the stairwell off the kitchen in the south wing, the wall plaster has peeled away from the masonry and collapsed onto the stairs. Otherwise, though, the plastered walls throughout the building are generally intact. However, paint on the plaster is peeling throughout the building. Ceilings, on the other hand, are generally cracked and, in many locations, collapsed. While the ceiling was removed in the burnt room, ceilings have collapsed at the second floor connecting corridor, at the laundry room where water damage occurred during the fire in the room above; and at the second floor of the south wing (but where there is little evidence of water damage). All of the ceilings appear to be a plasterboard material similar to modern gypsum board. However, because of the ubiquitous presence of asbestos in various building products manufactured at the time the Coach House was built, the ceilings should be tested for its presence before attempting to move any debris or to work on any of the intact ceilings.

*Doors, Windows and Woodwork.* The interior woodwork in most spaces is the original yellow pine that has been stained and varnished. The varnish surface is peeling badly in many of the spaces due to the dampness coupled with lack of heat.

The windows all appear to have interior hinge mounted storm windows and/or screens with finishes to match the other trim. Many of these storm windows and screens are now missing and many also have some damaged or partially missing hardware elements. The wood is grain painted to look like yellow pine.

> Strip and revarnish all woodwork. Restore missing interior storm windows and screens with detailing added to reduce possible condensation on principal sash.

*Stairs.* The 36 inch wide stairs leading from the service corridor in the north wing up to the second floor bedrooms has seven inch risers and 11 inch treads. However, there are two sets of winders and no handrail. In good condition, the stair complies with the state building code for steepness and width and the winders are not in violation with the code if the use is a one or two family residential building.

The back stairs in the south wing have 7-1/2 inch risers and 10-1/2 inch treads. Not only do they not comply with code requirements for riser and treads, but they are heavily damaged by the roof leak discussed elsewhere above. The stringers are rotted and the treads are worn.

*Fireplaces*. The large cast iron range built into the chimney breast is a high quality stove with decorative detailing that would normally have been used in a main kitchen rather than a servant's kitchen. It is also interesting insofar as it is a style in more commonly associated with the 1870's and 80's rather than the ca. 1910 construction period of this kitchen (Figure 9). This stove bears the label Cyrus Carpenter & Co., 44 Hanover Street, Boston and the year 1885. Unfortunately, the stove is missing a number of doors and the burner inserts. Stoves of this type have become quite rare; despite its missing elements this one should be preserved in place and restored if replacement parts can be found or reproduced. According to park personnel, the missing parts are in storage to prevent their theft.

The living room is distinguished by an open brick fireplace with a colonial revival style wood mantelpiece (Figure 10).

*Built-in Furnishings*. The kitchen retains most of its original features in fairly intact condition. To the left of the stove, the original built-in cabinetry remains in good condition (Figure 9). There is a small pantry to the left of this cabinetry, with a built-in cabinet and a marble slab on one counter top. All the cabinetry retains its original varnish finish. An original sink is missing but its location on the south wall is apparent from marks in the finish below the window.

On its west wall the laundry room has a brick stove containing two burners with a firebox below it (Figure 11); on the remaining walls it has extensive built-in drawers and high, glazed-door cabinets (Figure 12). The boiler was probably used to heat laundry water and irons and the cabinets were probably used to store clean linens. The right end of the firebox opens into the adjacent drying room, supplying hot, dry air to wet, hanging laundry. The cabinets are worn from use and many of the drawer fronts are broken off and some of the doors are damaged; new, matching drawers will be needed to restore these cabinets. There is substantial water damage along the north wall due to a fire in the room above. The room across the hall has a drain in the center and was probably used as a drying room.

> Retain all kitchen and pantry cabinetry, the kitchen stove and living room fireplace mantel. Remove linoleum and VAT from floor; strip and refinish the original yellow pine flooring. Prepare and repaint all plaster on walls and ceilings. Retain exposed ceiling beams and all other varnished wood door, window and baseboard trim; clean and revarnish woodwork as required to restore it to serviceable condition. Provide interior storm windows/screens for windows to match original missing ones.

Retain the laundry room stove with its boiler. A modern countertop could be constructed over it if desired to provide functional work surface. Retain, repair and refinish built in cabinetry in both the laundry room and garage.

## F. Building Code Issues

Because of the age of the Coach House, it does not comply with many of the requirements of the fifth edition of the State Building Code. If the Coach House is continued as a residential building (Use Group R-4), the code requirements are found in Article 34. One and Two Family Dwellings. However, the Code does not require a general compliance retro-fitting when renovations are made; rather, at Section 3400.2.4 it simply states that replacement components must comply with current requirements. Therefore nonconforming stairs, egress dimensions, insulation values, etc. need not comply if they are not being altered.

Existing conditions which clearly create a life safety hazard should be upgraded as a matter of common sense. Such hazards would include the lack of guardrails at the Coach House platform and the lack of handrails in stairways. Furthermore, certain items should be upgraded as a matter of economy. These would include insulating the walls and attic at the same time the interior wall surfaces and flooring are being repaired and, perhaps, adding eave and ridge ventilators and ice shield under the roofing of the building.

Depending on the potential tenants for this property, the building may have to be tested for asbestos and lead paint. This work is beyond the scope of this report and any costs associated with testing and removal of these materials have not been included in the estimates.

In general, a detailed code analysis for possible future uses is outside the scope of this report. Likewise, an analysis of zoning issues, Topsfield fire department requirements, wetland setbacks, Title 5 on-site sewage requirements and similar state and town land-use and environmental regulations are not a part of this report.

## G. Conclusion and Recommendations

This building can be rehabilitated to make it suitable for contemporary use without compromising their historic features. The following recommendations and estimates assume that all renovation work will be in conformance with the United States Secretary of the Interior's Standards for Rehabilitation. Based on the above discussion, the following repairs and replacements are recommended:

1. Replace the ridge beam on the south side of the flat roof with three new 2x12's about 13 feet long. Repair any hidden damage in the ends of the rafters framing into the ridge beam.

2. Repair localized rot damage in the attic floor and at the bottom ends of two or three rafters.

3. Replace about 400 sq.ft. of rotted two-inch thick tongue-and-groove decking at the second floor hayloft. Shave about 1/2 inch of rot off the tops of about six 12 foot long 4x10 joists and repair them with matching dutchman pieces. Remove the remaining damaged plaster from around the steel beams, clean debris away from the beams and replace the plaster with about 100 sq.ft. of new blue-board and skim-coat plaster.

4. Demolish the 200 sq.ft. platform deck above the second floor and reframe it with conventional 2x framing and plywood; adequate guardrails should be installed around the perimeter (41 lin.ft.).

5. Demolish and replace the back stairs off the kitchen from the basement to the second floor. Repair the header beam crossing the stair opening leading into the basement; repair the rotted ends of two joists that frame into the header.

6. Refinish about 1,500 sq.ft. of wood floor surface on the second floor. Remove existing VAT flooring in the corridor and bathroom.

7. Clean, prepare and paint 8,000 sq.ft. of wall surface.

8. Refinish 26 interior doors including 10 with cracked panels; replace 12 missing doors.

9. Install handrails in the stairwells.

10. Replace all ceilings (about 4,000 sq.ft.) with modern gypsum board throughout the residential and workshop areas of the first and second floor. On the second floor of the northeast wing, include about 300 sq.ft. of ceiling joists and strapping. Include finishing and painting in this ceiling work.

11. Rebuild about 200 sq.ft. of disrupted and bulging brickwork in the back stair well off the kitchen; repoint missing and eroded mortar joints in the same general area, including the garage side of the same wall.

12. Install ventilation areaways and louvers in the basement.

13. As part of a comprehensive restoration project, modern facia boards, soffit boards and rafter tails should be removed and replaced with elements replicating the original shapes and sizes. Install gutters where they would prevent a concentrated discharge of runoff water against the building walls and windows.

14. Remove and replace 50 squares of exterior shingles; assume full replacement although some sections may be salvageable.

15. Remove and recondition 31 windows (61 separate sash); a narrow bathroom needs to be replaced. Replace missing wood parts and hardware. Replace and repair damaged trim and sills. Repaint all window units.

16. Remove and replace the collapsed, 70 sq.ft. south porch with a new porch similar in materials and details.

17. Repair and refinish exterior doors in seven different sized openings. Repair and replace missing and damaged trim.

18. Either restore the hayloft platform on the south side or remove the ledger beam and cover over the area with cedar shingles.

19. Remove and replace all water and plumbing lines; clean and restore operable fixtures and replace the metal shower stall.

20. Install plumbing and fixtures as needed for the kitchen to function as a modern kitchen.

21. Replace the existing boiler system and associated controls and piping; clean and recondition the radiators throughout the building.

22. Remove and replace the entire electrical system. Include smoke detection and emergency lighting.

## H. Renovation Costs

Based on the above recommendations, costs were estimated for renovating the Bradley Palmer Coach House. These are shown in the Appendix estimating forms. Costs for testing and any removal or neutralizing of lead paint, asbestos and any hazardous materials or contaminated soils are not included in these estimates. However, it should be assumed that these conditions exist until tests by outside, independent testing agencies prove otherwise.

Furthermore, the cost estimates are intended for planning and budgeting purposes only and are not intended to be used as estimates of probable construction costs. The actual costs of construction are dependent on market conditions at the time of construction and may differ considerably from these August, 1995 estimates. Furthermore, it has been assumed that the existing uses of vehicular storage and residential will remain the same in the future.

## I. General Assumptions and Limiting Conditions

This inspection is not a certification of the soundness of the building, a survey or a legal document (for instance, a title examination), although assumptions regarding these and other matters are made.

1. Ocmulgee Associates, Inc. will not be required to give testimony or appear in court because of having made this report, with reference to the property in question, unless arrangements have been previously been made.

2. Any legal description used in this report is assumed to be correct.

3. No survey of the property has been made by Ocmulgee Associates, Inc. and no responsibility is assumed in connection with such matters.

4. No responsibility is assumed for matters of a legal nature affecting title to the property, nor is an opinion of title rendered. The title is assumed to be good and merchantable.

5. Information furnished by others is assumed to be true, correct and reliable.

6. All mortgages, liens, encumbrances, leases and servitude have been disregarded unless so specified within the report. The property is reviewed as though under responsible ownership and competent management.

7. It is assumed that there are no hidden or unapparent conditions of the property, subsoil or structure. No responsibility is assumed for such conditions or for any engineering or testing which may be required to discover such factors.

8. It is assumed that there is full compliance with all federal, state and local environmental regulations and laws unless noncompliance has been stated, defined and considered in this report.

9. It is assumed that utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass.

## J. Bibliography

Construction Cost Data. Kingston, Mass.: R. S. Means Company.

The Massachusetts State Building Code, Fifth Edition. Boston, Mass.: Mass. Secretary of State.

Myers, John H. "Preservation Brief 9: The Repair of Historic Wooden Windows". Washington, D.C.: National Park Service, Preservation Assistance Division, 1981.

"The Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings". Washington, D.C.: National Park Service, Cultural Resources, Preservation Assistance Division, 1992.

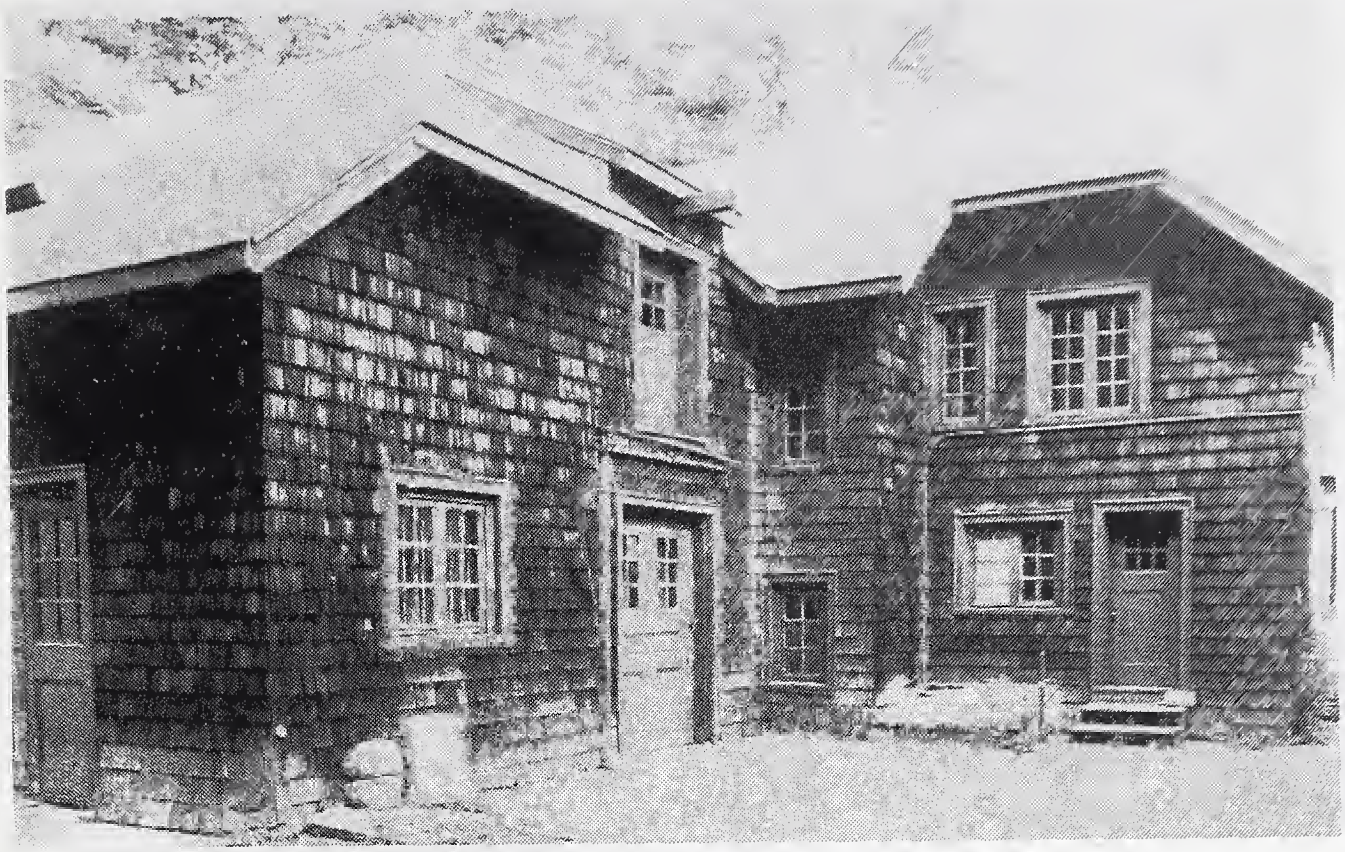

Figure 1. Coach House at the Courtyard.

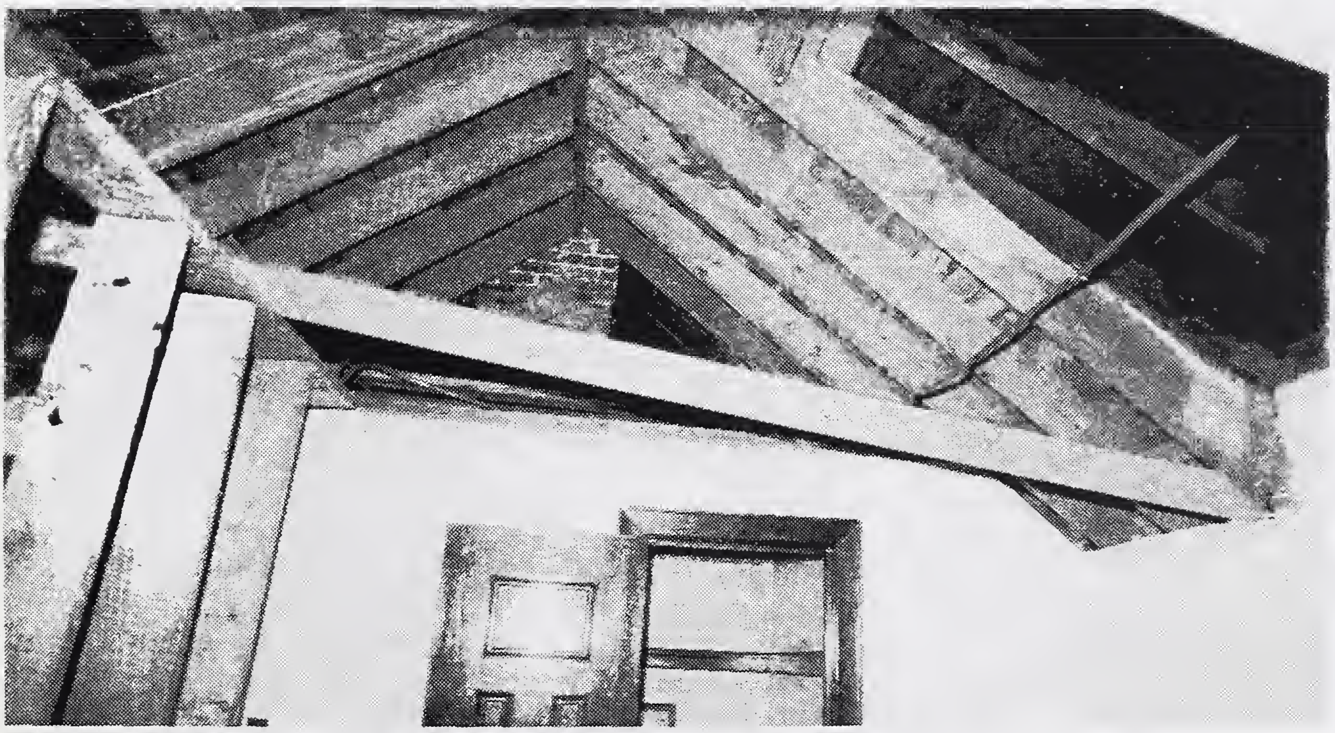

Figure 2. Missing Attic Floor at Rebuilt, Fire-Damaged Roof.

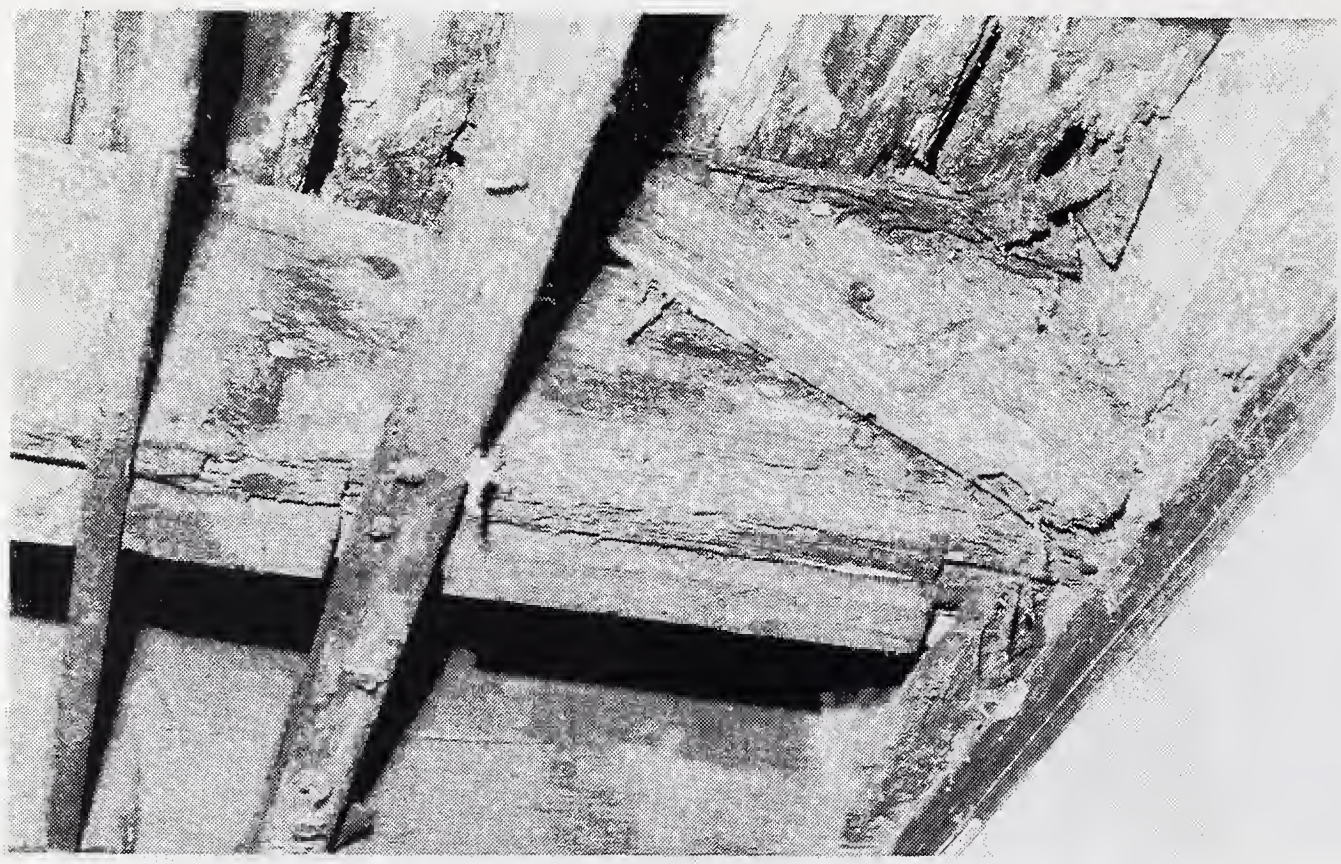

Figure 3. Rotted Rafter, Attic Joist and Flooring at Hall Ceiling.

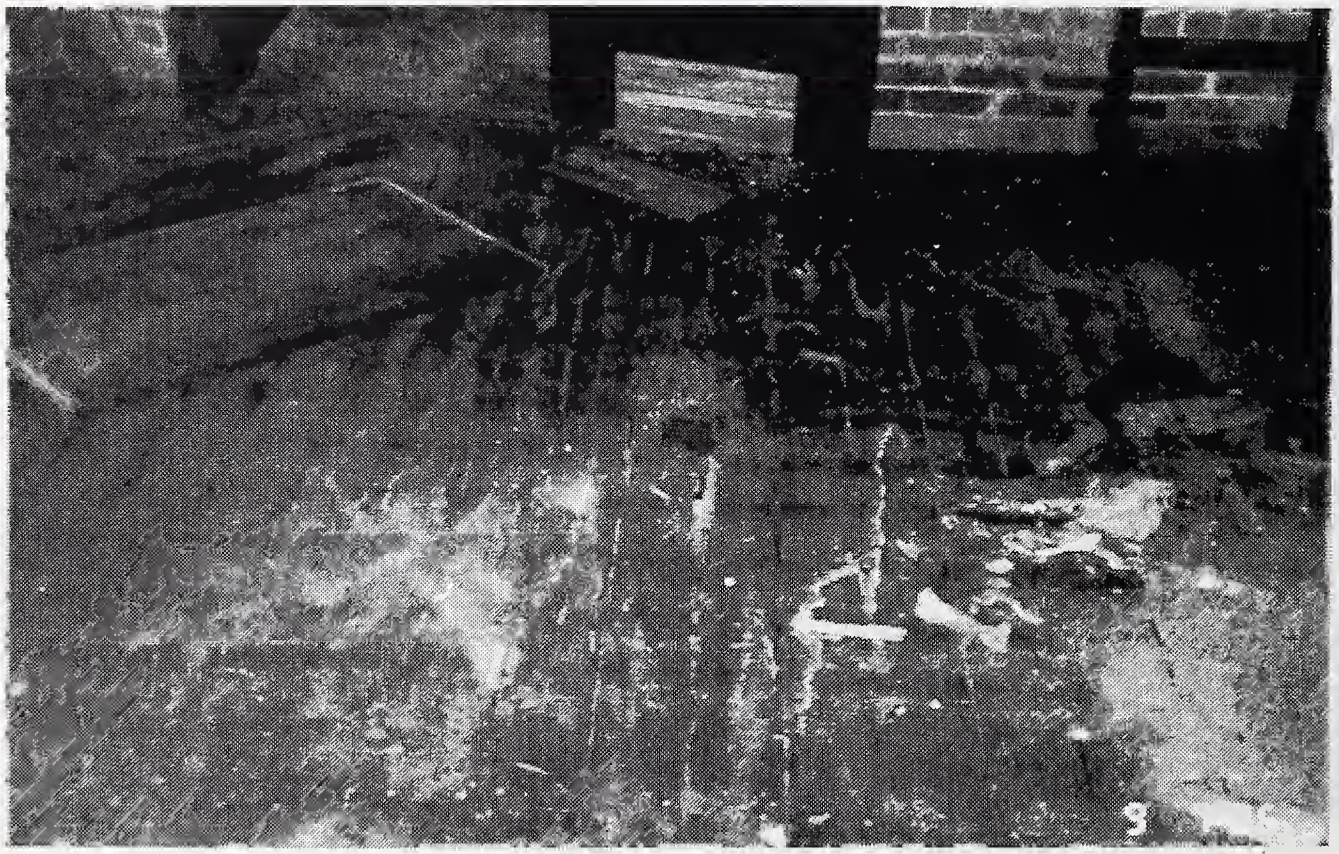

Figure 4. Water-Damaged Hayloft Floor.

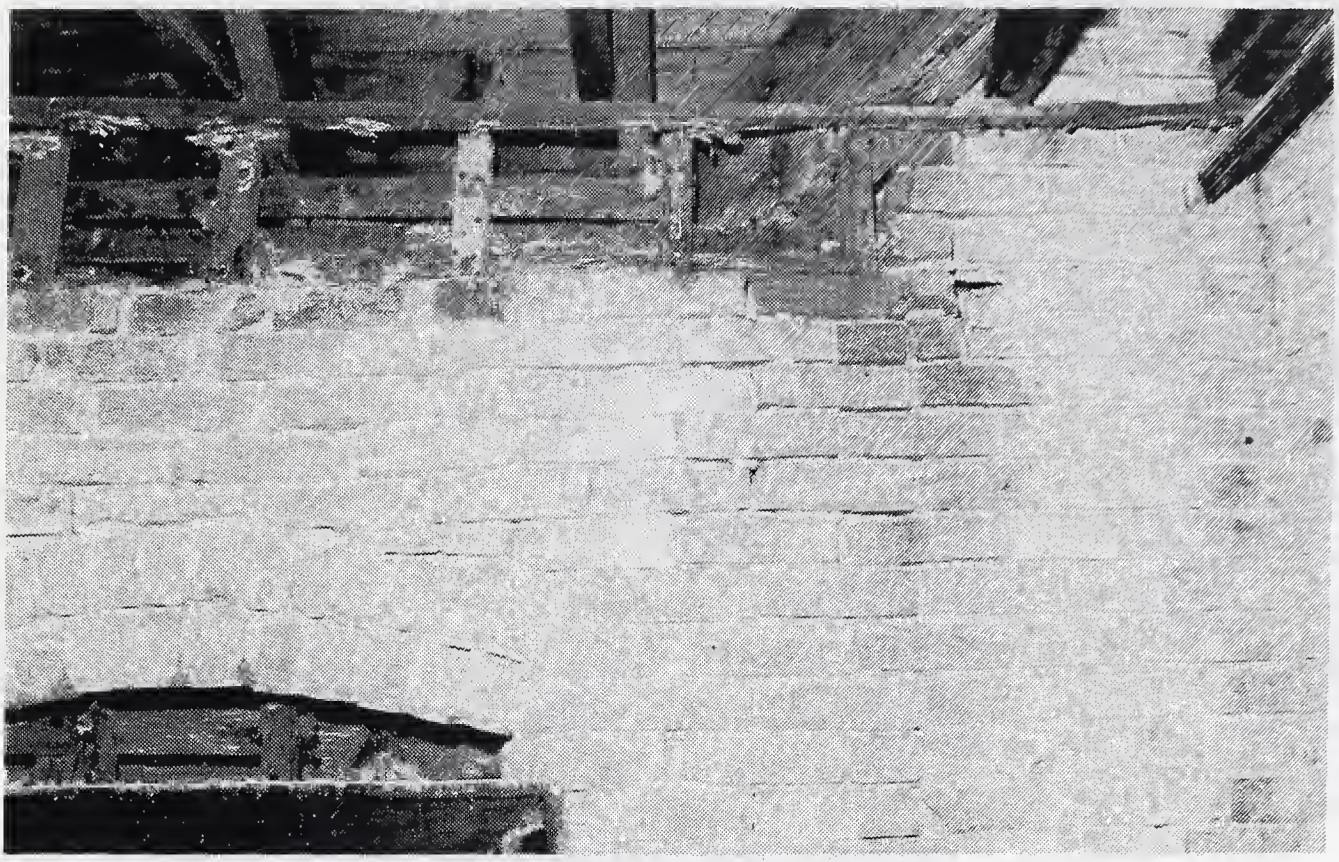

Figure 5. Water-Damaged Valley Rafter and Eroded Brick Wall.

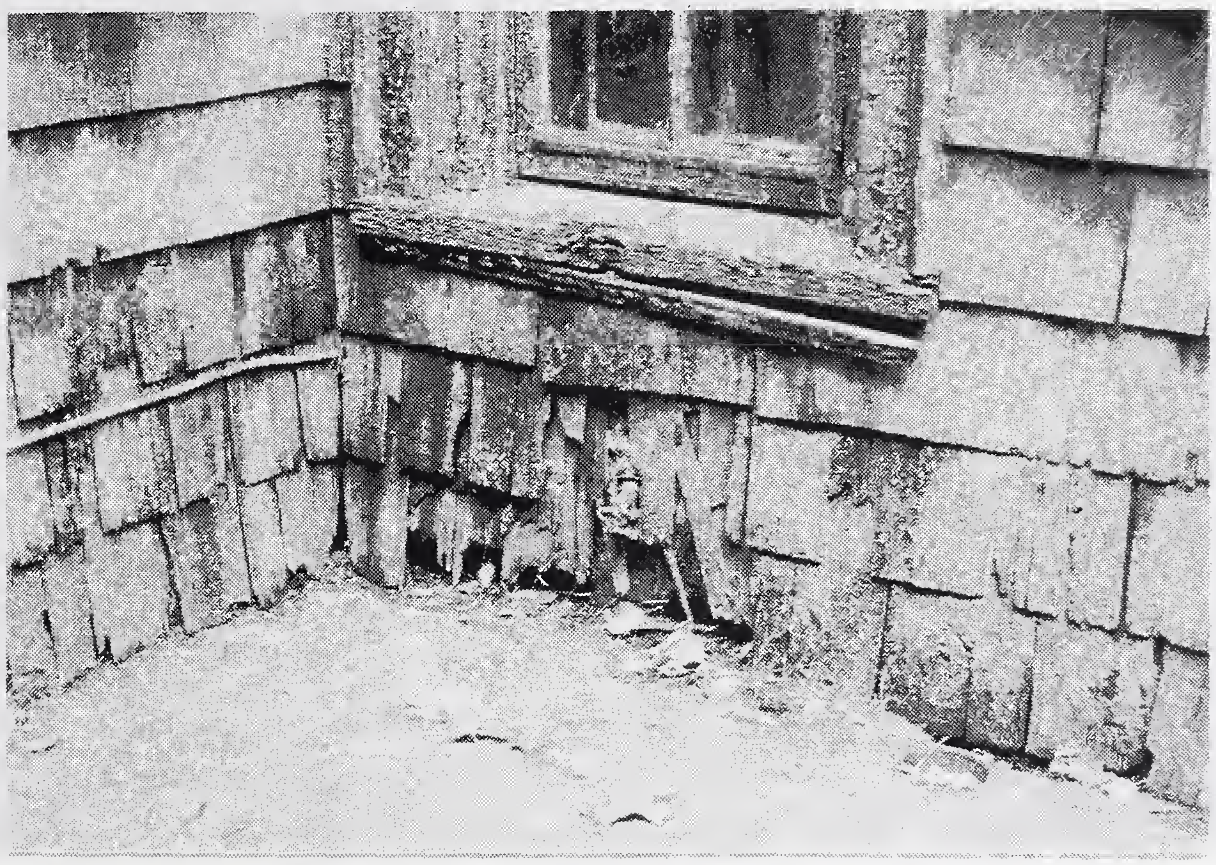

Figure 6. Damaged Lower Shingles at Coach House.

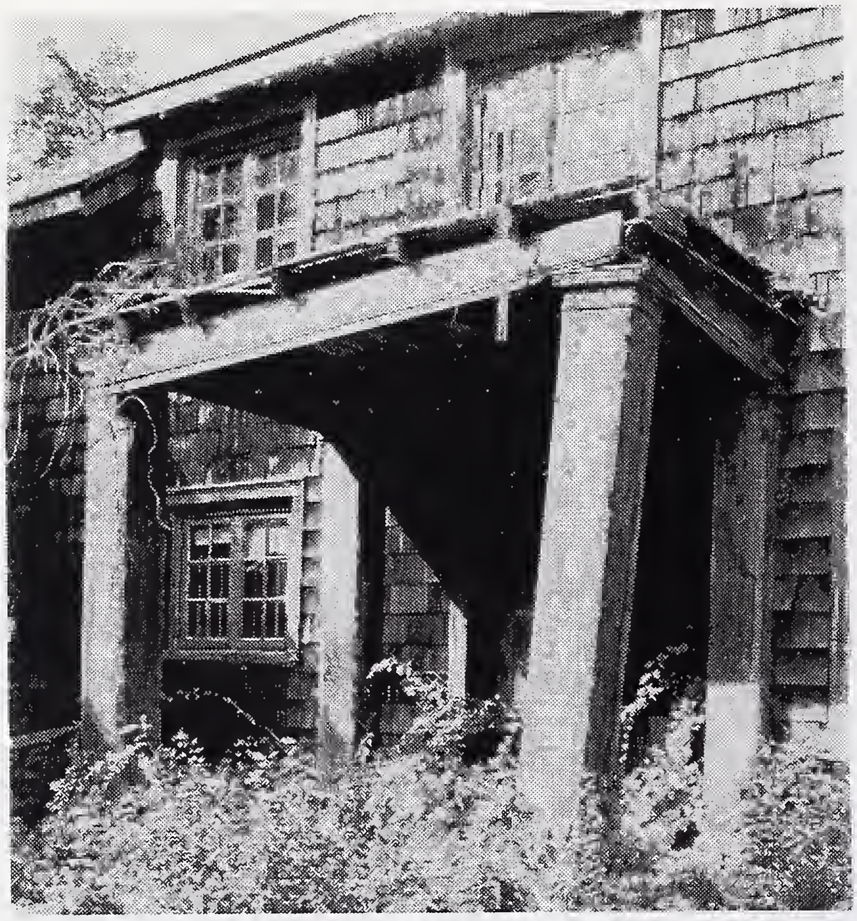

Figure 7. Collapsing Porch at Coach House.

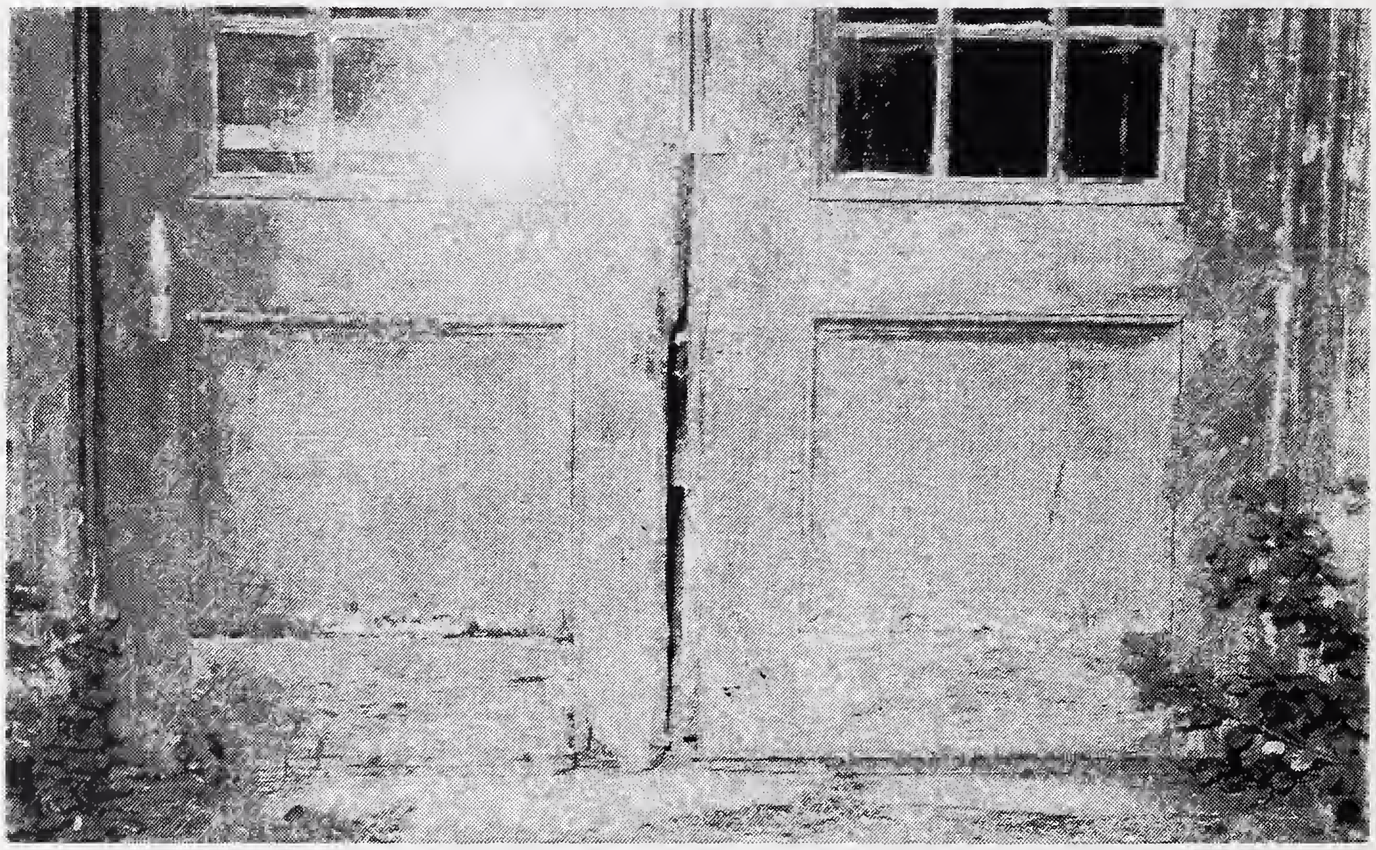

Figure 8. Damaged East Doors at Coach House.

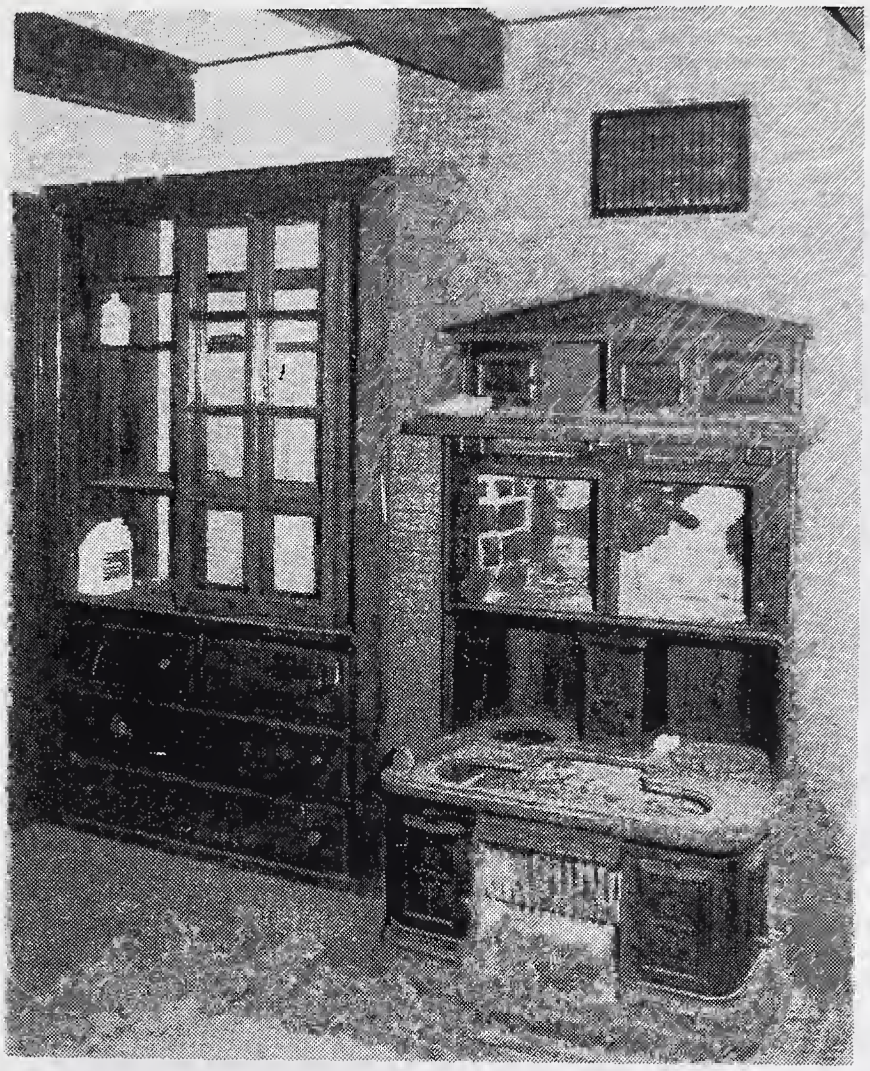

Figure 9. Kitchen Stove and Cabinet.

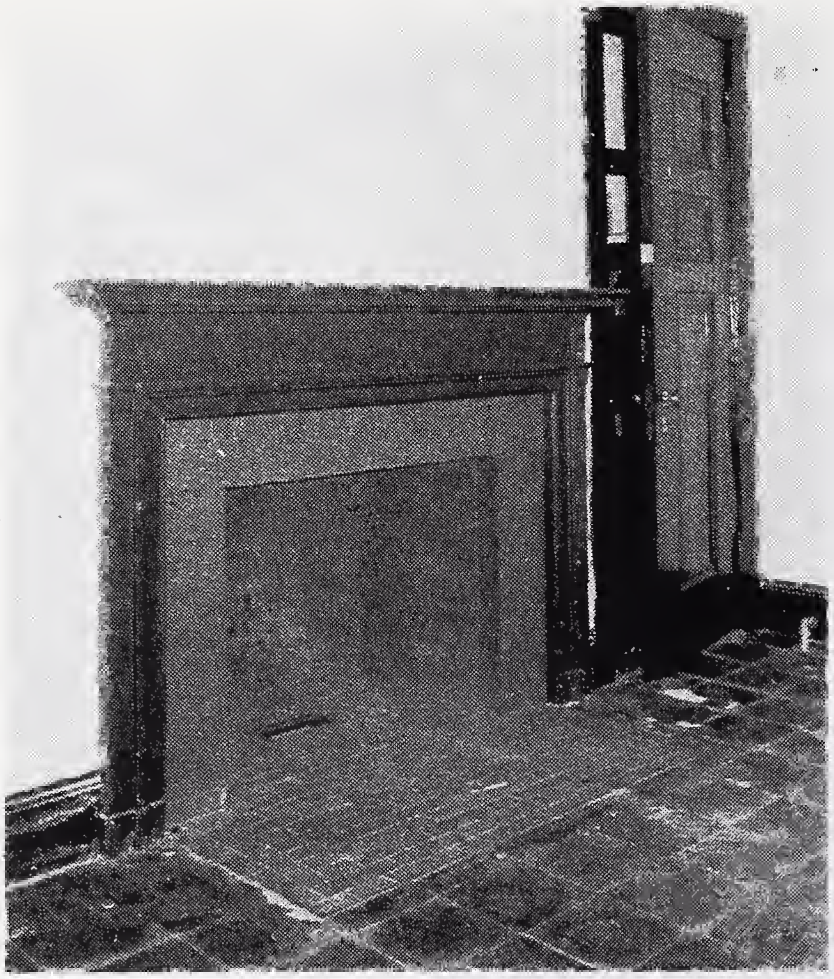

Figure 10. Living Room Fireplace, Hearth and Mantle.

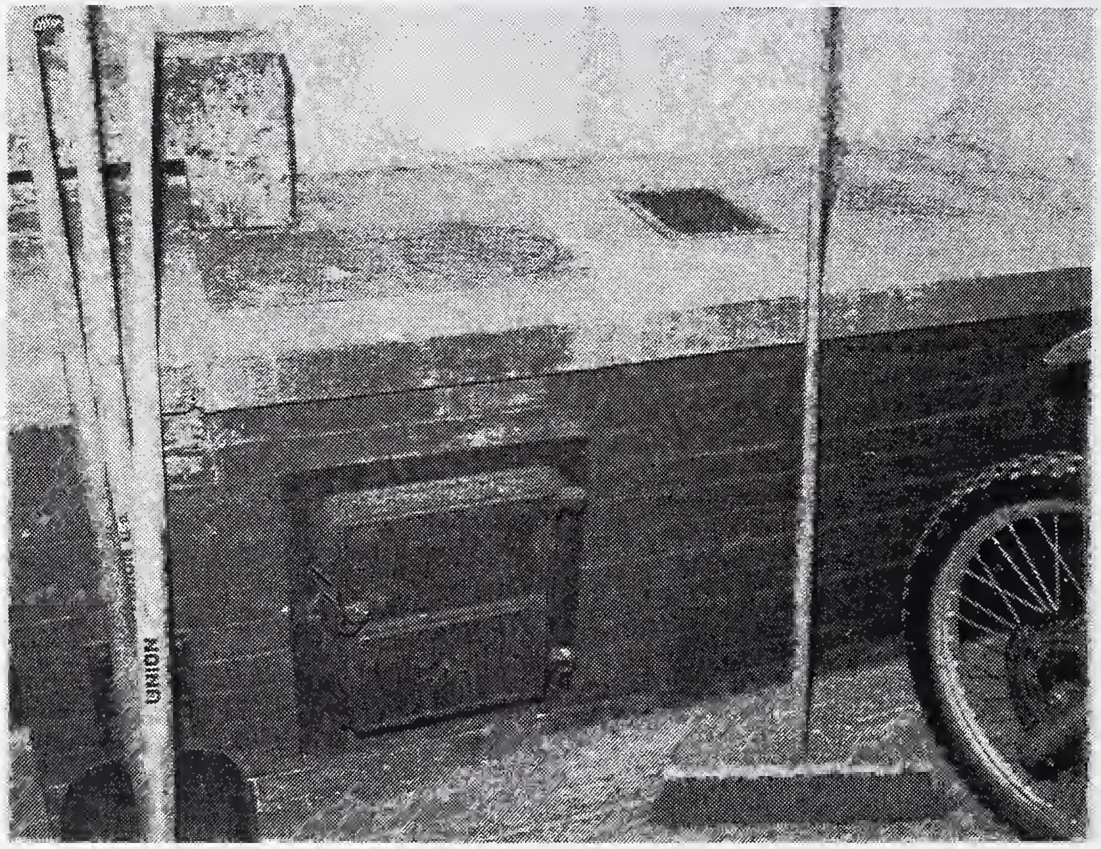

Figure 11. Laundry Stove.

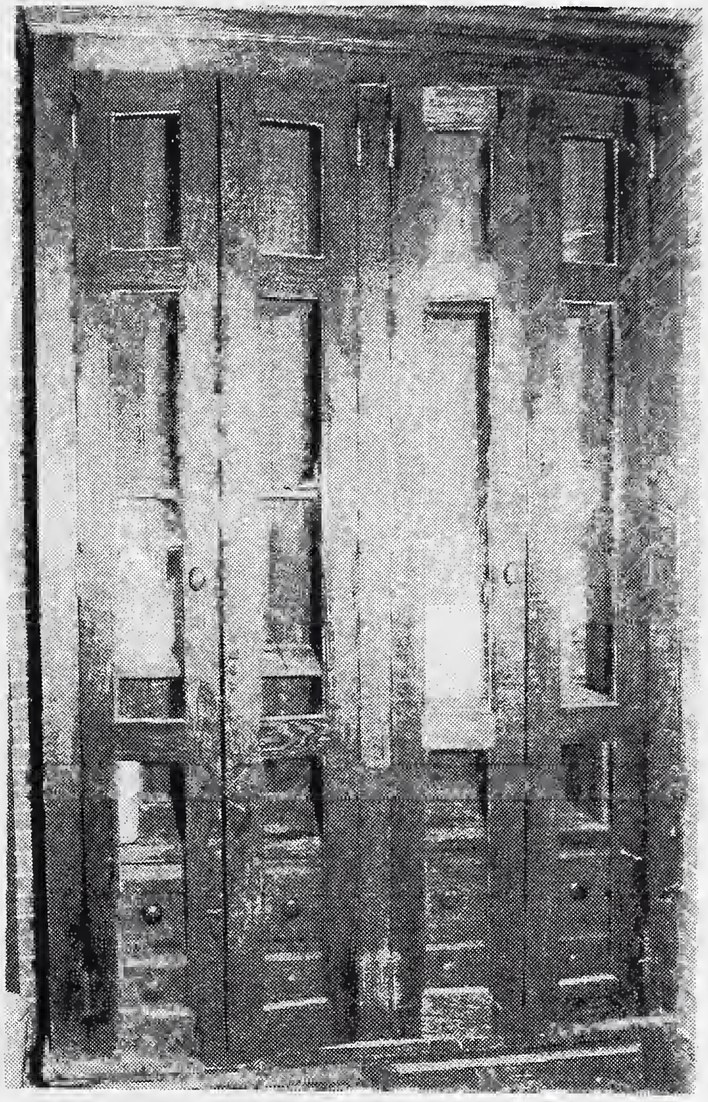

Figure 12. Linen Cabinet.

# APPENDIX

| | |
|---|---|
| Cost Estimates | 6 Sheets |

COST ESTIMATE
BRADLEY PALMER STATE PARK - COACH HOUSE
October 1995

Prepared: RAC
Checked: WCK

| | **DIVISION** | **TOTAL** |
|---|---|---|
| 1 | GENERAL DATA | 60,810 |
| 2 | SITEWORK | 29,700 |
| 4 | MASONRY | 7,400 |
| 6 | WOOD & PLASTICS | 41,175 |
| 7 | THERMAL & MOIST PROT | 20,495 |
| 8 | DOORS & WINDOWS | 45,815 |
| 9 | FINISHES | 43,604 |
| 15 | MECHANICAL | 21,050 |
| 16 | ELECTRICAL | 34,000 |
| | **TOTAL** | **304,049** |
| | 10% CONTINGENCY | 30,405 |
| | **GRAND TOTAL** | **334,454** |

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|---|---|---|---|---|
| DIVISION 1 GENERAL DATA | | | | |
| GENERAL CONDITIONS | | | | 24,324 |
| INCLUDES: PERMITS, TEMP UTILITIES, BONDS, INSURANCE, SUPERVISION, PRINTS, SHOP DRAWINGS, AND FINAL CLEANING | | | | |
| OVERHEAD & PROFIT | | | | 36,486 |
| TOTAL DIVISION 1 | | | | 60,810 |
| DIVISION 2 SITEWORK | | | | |
| SEPTIC SYSTEM ALLOW | | LS | | 10,000 |
| DOMESTIC WATER ALLOW | | LS | | 7,500 |
| EARTHWORK ALLOW | | LS | | 2,500 |
| DEMOLITION INCLUDING: DECK ABOVE 2ND FLR, KIT & PANTRY FLR, VAT @ CORR & BATH, 2 SETS STAIRS, PLAS CLG, BOILERS, TANKS, PIPING, ELEC PANELS & WIRING | | LS | | 6,500 |
| DUMPSTERS | 4 | EA | 800 | 3,200 |
| TOTAL DIVISION 2 | | | | 29,700 |
| DIVISION 4 MASONRY | | | | |
| REBUILD BRICK @ STAIR | 200 | SF | 15 | 3,000 |
| MISC POINTING | | LS | | 1,200 |
| AREAWAYS | | LS | | 1,200 |
| CHIMNEY RESTORATION | | LS | | 2,000 |

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|---|---|---|---|---|
| TOTAL DIVISION 4 | | | | 7,400 |
| DIVISION 6 WOOD & PLASTIC | | | | |
| ATTIC FLR | 100 | SF | 6 | 600 |
| HAYLOFT FLR | 400 | SF | 8 | 3,200 |
| FRAME DECK ABOVE 2ND | 200 | SF | 12 | 2,400 |
| BACK STAIR | 2 | FL | 1600 | 3,200 |
| CUT & PATCH FOR MEP | | LS | | 2,000 |
| SIDEWALL SHINGLES | 50 | SQ | 300 | 15,000 |
| STAIR RAILS | | LS | | 1,200 |
| PLATFORM GUARDRAILS | | LS | | 1,000 |
| CLG JSTS & STRAPPING | 300 | SF | 8 | 2,400 |
| RIDGE BEAM | 13 | LF | 50 | 650 |
| REPAIR RAFTER ENDS | 170 | EA | 20 | 3,400 |
| FASCIA & VENTED SOFFIT | 315 | LF | 15 | 4,725 |
| REPLACE SOUTH PORCH | 70 | SF | 200 | 1,400 |
| TOTAL DIVISION 6 | | | | 41,175 |
| DIVISION 7 THERMAL & MOISTURE PROTECTION | | | | |
| SEALANTS | | LS | | 750 |
| ROOF VENTILATION | | LS | | 2,200 |
| ICE & WATER SHIELD/SHINGI | 20 | SQ | 290 | 5,800 |
| ROOF INSULATION | 4000 | SF | 1 | 4,000 |

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|---|---|---|---|---|
| GUTTERS | 315 | LF | 11 | 3,465 |
| DOWNSPOUTS | 160 | LF | 8 | 1,280 |
| SEAL BSMT FDN WALLS | | LS | | 3,000 |
| TOTAL DIVISION 7 | | | | 20,495 |
| DIVISION 8 DOORS & WINDOWS | | | | |
| REBUILD SLIDING DRS | 2 | PR | 2,000 | 4,000 |
| REBUILD EXT DRS | 5 | EA | 350 | 1,750 |
| REPLACE WINDOW SASH | 61 | EA | 390 | 23,790 |
| RESTORE WIND FR & SILL | 31 | EA | 175 | 5,425 |
| REPLACE MISSING DRS | 12 | EA | 650 | 7,800 |
| REPAIR DR PANELS | 10 | EA | 175 | 1,750 |
| REFIT DRS | 26 | EA | 50 | 1,300 |
| TOTAL DIVISION 8 | | | | 45,815 |
| DIVISION 9 FINISHES | | | | |
| REFIN KIT & PANTRY FLR | 200 | SF | 2 | 400 |
| PAINT INT WALLS | 8000 | SF | 0.75 | 6,000 |
| PAINT CLG | 4000 | SF | 0.75 | 3,000 |
| PAINT RUN TRIM | 2750 | LF | 0.65 | 1,788 |
| PAINT INT DRS | 76 | FACE | 31 | 2,356 |
| PAINT INT DR FR | 1216 | LF | 0.65 | 790 |
| REFIN WD FLR | 1500 | SF | 2 | 3,000 |

| DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|---|---|---|---|---|
| GWB CLG | 4000 | SF | 1.25 | 5,000 |
| PAINT INT WIND | 31 | EA | 60 | 1,860 |
| PAINT EXT WIND | 31 | EA | 85 | 2,635 |
| STAIN EXT SIDING | 5000 | SF | 1.25 | 6,250 |
| PAINT WIND FR & SILL | 31 | EA | 25 | 775 |
| REPAIR PLAS WALLS | 250 | SY | 25 | 6,250 |
| PAINT INT MILLWORK | | LS | | 3,500 |
| REMOVAL OF EXIST PAINT | | | | NIC |
| TOTAL DIVISION 9 | | | | 43,604 |
| | | | | |
| DIVISION 15 MECHANICAL | | | | |
| BOILER | | LS | | 5,000 |
| FUEL OIL TANK IN BSMT | | LS | | 750 |
| FUEL OIL PIPING | | LS | | 350 |
| BOILER BREECHING | | LS | | 300 |
| PIPE & INSUL | | LS | | 4,000 |
| HOT WATER HEATER | | LS | | 750 |
| RADIATION ALLOW | | LS | | 2,500 |
| REPIPING ALLOW | | LS | | 2,000 |
| PLUMB FIX ALLOW | | LS | | 4,500 |
| BSMT LOUVER | | LS | | 900 |
| REMOVE EXIST PIPE INSUL | | | | NIC |
| TOTAL DIVISION 15 | | | | 21,050 |

| | DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|---|---|---|---|---|---|
| | | | | | |
| | DIVISION 16 ELECTRICAL | | | | |
| | | | | | |
| | COMPLETE REFURB INCLU: | 4250 | SF | 8 | 34,000 |
| | STD & EMERG LIGHTS, | | | | |
| | SMOKE DETECTION SYST, | | | | |
| | MAIN & DISTR PANELS, | | | | |
| | REWIRING W/ GFI, ETC | | | | |
| | | | | | |
| | TOTAL DIVISION 16 | | | | 34,000 |
| | | | | | |
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